Technology Outpacing Training in the Marine Corps

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Technology Outpacing Training in the Marine Corps
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Our management team should be more process oriented, working on ways to improve ‘how we do business’ rather than concentrating only on specific programs and doctrinal experimentation, and new and different ways of accomplishing our mission.

-Secretary of the Navy Gordon R. England

While the military was once at the forefront of technological advances, it is now trying to keep pace with the civilian sector. The technological explosion during the past decade has forever changed the world and the Marine Corps, for which technology is now a force multiplier. Technology has made it possible to know more about what is taking place on the battlefield than ever before and it has allowed commanders to make more informed and timely decisions. However, the military is introducing new technologies and new operating systems to the operating forces faster than ever before, making it difficult them to maintain proficiency. The Marine Corps' current Network Centric Warfare[1] push is affecting force readiness and this suggests that a commercial model would be more effective.

NCW Background

While the Marine Corps has pushed new versions of software, such as advanced field artillery tactical data system (AFATDS) and Command and Control Personal Computer (C2PC), the problem has been one of immediate "usability"[2]. When Secretary of the Navy Gordon R. England addressed the Senate Armed Services Committee in July of 2001, he

[1] Network Centric Warfare is no less than the embodiment of an Information Age transformation of the DOD. It involves a new way of thinking about how we accomplish our mission, how we organize and interrelate and how we acquire and field the systems that support us.
[2] Usability- Simplicity in operation and understanding from one system to the next

emphasized the importance of advanced technologies to the Navy and Marine Corps. In his opening comments he stated, "the application of advanced technology is central to our Nation's military strength."[3] He went on to address the growing disparity between the military and the commercial technological sectors. His point was simple, "Technological advances are central to the priorities set forth by the President and the Secretary of Defense as we shift from the 20th century force to the more lethal and agile one of the 21st century."[4] The need is clear: Get the latest and greatest operating systems to the operating force as fast as possible to improve the overall effectiveness of the Naval fighting force.

Adverse Effects

Military systems do not follow a commercial pattern of marketing the product to the lowest common denominator, a marine lance corporal operator. These systems, such as AFATDS and C2PC, have so much functionality that it is nearly impossible for an operator to learn all their functions, let alone apply these capabilities with proficiency within a subject area. In the 1st MARDIV OIF lessons learned, the operations officer noted that

[3] Statement of Gordon R England Secretary of the Navy before the Senate Armed Services Committee 10 July 2001
[4] England

“enlisted marines are not currently trained to the level needed to support the hardware and software that run our current tactical systems in a sustained combat environment.”[5]

An example of this is the AFATDS. At first look AFATDS would seem to be a fairly straightforward system but it is one of the most complex systems in operation today. AFATDS is designed to be an integrated fire support command and control system. Its primary use is to control the digital indirect fire support network from sensor to shooter, but it can also assist in the integration of both rotary wing and fixed wing aircraft. AFATDS facilitates fire support planning and current operations, and it is the primary operating system for digital input of fire support coordination measures (FSCMs).

Since its implementation in the Marine Corps AFATDS has undergone many changes and patches to fix software or functional problems that were not in line with doctrinal fire support guidelines. The system an operator learned in school was often not the same one he NEEDED to operate in the fleet. The majority of AFATDS training is left to individual units. By the table of organization, many of these units rate school-house trained subject matter

[5] Extract from 1ST MARDIV Lessons learned during OIF 1

experts to facilitate training, but it is all to common to have these positions unfilled or filled by less than qualified experts. There are few training opportunities outside the individual units within the operating.[6] During OIF, the Marine Corps sent contractors from Raytheon were to troubleshoot problems with AFATDS, and they had to provide onsite training due to a lack of qualified operators.[7] MARCORSYSCOM provided support and oversight of the system prior to and during combat operations. They noted significant discrepancies in operating AFATDS throughout I MEF during OIF due to operator training.[8] One of the units sent to support this evaluation was the New Equipment Training Team (NETT) out of Fort Sill, Oklahoma. The NETT is tasked with quality control of the new versions of AFATDS and supporting training throughout the Marine Corps. The 1ST Marine Division Command Operations Center (COC) was so short of qualified operators that the 1st Marine Division drafted one of the two members of the NETT

[6] Based on Authors personal experience while serving with 3rd Battalion 11th Marines in Twenty-nine Plams California from Feb 2000- June 2002.
[7] Verbal account from Raytheon Contractor to the author during system integration and SACC-Automated upgrades aboard the USS Essex during JTFWARNet Fall 2003
[8] Verbal account of representatives from MARCORSYSCOM to the author during system integration and SACC-Automated upgrades aboard the USS Essex during JTFWARNet Fall 2003

to be the AFATDS operator throughout the Division's push from Kuwait to Baghdad.[9]

C2PC is another system for which previous versions of the software do not follow a simplified progression. As the software has developed, it has increased in functionality and decreased in usability. Unlike AFATDS, there is no set format for entering unit identification also known as tracks. It is common to see exercise tracks on the same common operational picture (COP) as real tracks, which can create significant confusion within a COC. Its interoperability with global command and control system (GCCS) can be problematic when these ghost tracks are transferred from C2PC to GCCS.[10]

Further more, the lack of control over the different versions of C2PC in the fleet is a growing problem. It is common to move between units in the operating force and see multiple version of the software in one of these. The problem that develops is the same with all evolving software, products developed on older versions of C2PC are usually accepted by the newer versions but the reverse of

[9] Verbal account of the NETT representatives to the author during system integration and SACC-Automated upgrades aboard the USS Essex during JTFWARNet Fall 2003

[10] All information from authors personal experience during systems integration system and SACC-Automated upgrades aboard the USS Essex during JTFWARNet Fall 2003

this is not the same. In theory an operator should be able to move from an older version of C2PC to a newer version and have an easier time navigating the system. However, the newer the version, the more features there are to learn. This, compounded with the lack of control of the version operational in the fleet, makes it difficult to design an effective training package.

The limited training in the fleet and in the schoolhouse makes it difficult to troubleshoot problems. C2PC training at the Expeditionary Warfare School is a symptom of the overall problem. Captains who arrive at the school with backgrounds in C2PC become the equivalent of assistant instructors. In most cases the background they provide is basic usability, which they learned on the job. The detailed training for the average Captain who has to either operate or direct the operation of the system is nonexistent. This is not the fault of the school but of the "check in the box" attitude of this type of training. Exacerbating this symptom is the fact that the training often is utilized where it is the most inconvenient.

Commercial Model

During the 1980s the commercial sector began a push for total quality management (TQM). Recently General Electrics Six-Sigma model has become the benchmark for

quality control in the commercial sector.[11] The basic principles behind both are total customer satisfaction, employee involvement, continuous improvement, and long-term partnerships with suppliers and customers. At the heart of these principles is an investment in training. Not everything in the TQM or Six-Sigma tenets translate directly to the Marine Corps, but they have a universal theme that the Corps can incorporate into the acquisition and fielding of operating systems to the operating forces.

Civilian companies such as Microsoft are successful because they adapt their products to consumer demand. The broader civilian market allows for a greater number of operators to evaluate the products and to identify shortfalls. Microsoft's ability to adapt their products to these shortfalls and design the systems to support the lowest common denominator has permitted it a virtual monopoly on office software.

Conclusion

The Marine Corps must adapt better practices in acquiring and adapting operating systems and software to maintain a higher level of proficiency across the operating forces. The Marine Corps needs to have a strong emphasis on

[11] Yang, C-C.,"An integrated Model of TQM and GE Six-Sigma", Int. J. Six Sigma and Competitive Advantage, Vol.1, No.1, pp.97-111 2004

training and more available in-house resources for the operating forces. The systems that are in use now must become more user friendly, and they should incorporate ease of training. In the global war on terrorism, time is a commodity that is in short supply, which will make future attempts at training more difficult. The course that the Marine Corps is on is beginning to neglect the non-technological dimension and marines are becoming hostages of rather than masters of their technology.

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